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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,381	09/30/2003	Julie Y. Qian	SAM0017/US	3226

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 10/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/676,381

Applicant(s)

QIAN ET AL.

Examiner

Christopher RoDee

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants have amended the claims to specify that the charge control additive is an or a base that is "present in an amount effective to reduce the bulk conductivity of the liquid toner composition as toner is depleted during printing operations." Initially it is unclear what "toner" refers to in this limitation. Is this the electrophotographic toner composition having at least components a), b), and c) as recited in claim 1 or does this refer to only the negatively charged toner particles (i.e., component b)). It is unclear that is being consumed in the printing operation.

It is further unclear what the printing operation is in the claims. The instant claims are directed to a toner composition having a plurality of components. The amount of the charge control agent (i.e., component c)) is defined by the manner in which the toner composition is used. This use is a latter event. In order for the claims to particularly point out and distinctly claim the invention the claims must specify the printing operation conducted so that the artisan can test his proposed toner composition to see if the amount of c) present reduces the bulk conductivity of that composition during use. The art is replete with a variety of liquid development processes, such as electrophoretic development, immersion liquid development of

Art Unit: 1756

a imagewise charged receiver into a bath of liquid toner, contact development of a photoreceptor with liquid toner followed by drying of the liquid carrier and transfer of the toner particles to a receiver, contact development of a photoreceptor with liquid toner followed by recovery of the liquid carrier solution and return of this solution to the liquid toner, and many other methods. These different methods would be expected to give different concentrations of the components in the toner during a printing operation. For example, in some methods the amount of liquid carrier and materials in solution would be depleted during use (e.g., the drying method above) while in other methods the amount of liquid carrier and materials in solution would not decrease as quickly because the liquid solution is returned to a reservoir of the liquid or the receiver is passed through the bath. These different methods would directly affect the concentration of components and affect the amount of base or acid that would give reduced bulk conductivity. Because the claims do not specify the printing operation, the artisan would not be reasonably apprised of the amount of the charge control agent present in the toner.

The claims as presented are indefinite.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3, 6, 10-15, 17, 18, and 20 rejected under 35 U.S.C. 102(b) as being anticipated by deGraft-Johnson *et al.* in US Patent 5,232,811.

Applicants traverse this rejection based on the new limitation to the claims that specifies the amount of the charge control additive, which is an or a base, is "present in an amount effective to reduce the bulk conductivity of the liquid toner composition as toner is depleted

Art Unit: 1756

during printing operations". Specifically, applicants take the position DeGraft-Johnson does not disclose a liquid toner composition comprising a carrier liquid, a dyed latex, a charge director, and mineral oil. DeGraft-Johnson does not teach or suggest the use of an additional element in the toner composition that is an acid or base, present in an amount to effective to reduce the bulk conductivity of the liquid toner composition as toner is depleted during printing operations.

It is understood from applicants' remarks that the charge control agent appears to be a base because of the amino groups. Applicants also have not specifically stated that the limitations of dependent claims 12 and 13, which specify numerical values for the amount of the charge control agent in the toner composition, do not overlap with or have common values with the art. It is therefore taken that the charge control agent (i.e., director) is a base and that this base is present in amounts within the scope of claims 12 and 13.

The new limitation fails to define over the art of record because the process used to define the amount of the charge control agent is indefinite (see the § 112, 2nd paragraph, rejection above). Because the claims do not particularly point out and distinctly claim the invention it is unclear if the amounts of the prior art charge control agent are outside the scope of the claims for the liquid toner. Additionally, it appears that the amounts of charge control agent in the reference falls within the amounts of the dependent claims. Given this overlap, the artisan would expect the applied art's liquid toner to have the reduced bulk conductivity of the instant claims.

The rejection is maintained.

Claim Rejections - 35 USC § 103

Claims 1, 6-10, 14, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosel in US Patent 3,753,760 in view of Gibson in US Patent 4,891,286 or Almog in US Patent 5,792,584.

These rejections were set forth in the last Office action and are incorporated here. Applicants traverse the instant rejections because the supporting references disclose the addition of acids to liquid toners for different reasons than those specified in the instant claims. The claims, as noted above, limit the amount of the acid based on the desire to reduce bulk conductivity during printing operations. The Examiner has carefully considered applicants' remarks, but the claims are indefinite for the same reason as given above in the § 112, 2nd paragraph, rejection. Because the artisan is not reasonably apprised of the printing operation conducted, the artisan cannot know the amounts of the charge control additive of the claims, which are based on the printing operation.

Further, applicants have not stated that the amounts of acid suggested for inclusion in liquid toners by the supporting art are outside the scope of the instant claims. Admittedly the art does not disclose reduction of bulk conductivity as controlling the amount of acid added to the liquid toner, but the claims are directed to a composition that requires an amount of charge control agent. It appears that the amounts of the acid suggested by the art overlaps with the amounts specified by the claims as amended.

The art is still seen as reasonably suggesting the claimed invention and the rejection is maintained.

Art Unit: 1756

Claims 1-5, 10-13, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosel in US Patent 3,753,760 in view of *Handbook of Imaging Materials* to Diamond & Weiss (eds.) New York: Marcel-Dekker, Inc. (11/2001) pp. 242-247, 254-257.

This rejection was also presented in the last Office action. As noted above, the claims have been amended to specify an amount of the charge control agent based on the bulk conductivity during printing operations. Applicants traverse the rejection because the art does not disclose the amounts of the acid or base charge control agent as now specified. The Examiner has carefully considered applicants' remarks, but the claims are indefinite for the same reason as given above in the § 112, 2nd paragraph, rejection. Because the artisan is not reasonably apprised of the printing operation conducted, the artisan cannot know the amounts of the charge control additive of the claims.

Additionally, the supporting text discloses the amount of the acid added to a liquid toner can be modified to give desired electrical characteristics in a toner (see Diamond, pp. 254-257, particularly noting the Figures). The artisan is taught by the text that the amount of the added acid is a result-affecting variable, particularly to control mobility and conductivity. Given these disclosures and the lack of definiteness in the claims, the art is seen as reasonably suggesting the claims as now presented.

Claims 1-5, 10-13, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Qian *et al.* in US Patent Application Publication 2004/0091807 or Qian *et al.* in US Patent Application Publication 2004/0091808 or Qian *et al.* in US Patent Application Publication 2004/0091809 in view of *Handbook of Imaging Materials* to Diamond & Weiss (eds.) New York: Marcel-Dekker, Inc. (11/2001) pp. 242-247, 254-257.

Art Unit: 1756

This rejection was presented in the last Office action and that discussion is incorporated here. Applicants traverse the rejection because the art does not disclose the amounts of the acid or base charge control agent as now specified. The Examiner has carefully considered applicants' remarks, but the claims are indefinite for the same reason as given above in the § 112, 2nd paragraph, rejection. Because the artisan is not reasonably apprised of the printing operation conducted, the artisan cannot know the amounts of the charge control additive of the claims.

Additionally, the supporting text discloses the amount of the acid added to a liquid toner can be modified to give desired electrical characteristics in a toner (see Diamond, pp. 254-257, particularly noting the Figures). The artisan is taught by the text that the amount of the added acid is a result-effecting variable, particularly to control mobility and conductivity. Given these disclosures and the lack of definiteness in the claims, the art is seen as reasonably suggesting the claims as now presented.

Claims 1-5, 10-13, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrison *et al* in US Patent Application Publication 2003/0134940 in view of *Handbook of Imaging Materials* to Diamond & Weiss (eds.) New York: Marcel-Dekker, Inc. (11/2001) pp. 242-247, 254-257.

This rejection was also presented in the last Office action and that discussion is incorporated here. Applicants traverse the rejection for the same reasons given above. Specifically, applicants stress that the art does not disclose the amounts of the acid or base charge control agent as now specified. The Examiner has carefully considered applicants' remarks, but the claims are indefinite for the same reason as given above in the § 112, 2nd

Art Unit: 1756

paragraph, rejection. Because the artisan is not reasonably apprised of the printing operation conducted, the artisan cannot know the amounts of the charge control additive of the claims.

Additionally, the supporting text discloses the amount of the acid added to a liquid toner can be modified to give desired electrical characteristics in a toner (see Diamond, pp. 254-257, particularly noting the Figures). The artisan is taught by the text that the amount of the added acid is a result-effecting variable, particularly to control mobility and conductivity. Given these disclosures and the lack of definiteness in the claims, the art is seen as reasonably suggesting the claims as now presented.

Terminal Disclaimer

The terminal disclaimer filed on 24 August 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US application number 10/676371 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 1756

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr
3 October 2005



CHRISTOPHER RODEE
PRIMARY EXAMINER